## ABSTRACT

Systems and methods for imaging a dental occlusal registration impression; developing a digital 3D surface contour model of the occlusal registration impression from the image data; electronically transferring the data representing the digital 3D surface contour model of the occlusal registration impression; fabricating a physical replicate of the occlusal registration impression; correlating features on upper and lower jaw dental models with features on the replicate occlusal registration impression model; and determining occlusal alignment of the upper and lower jaw dental models using the replicate occlusal registration impression model.